

REMARKS

The Office Action dated January 4, 2007, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-16 are currently pending in the application, of which claims 1, 6, and 13 are independent claims. Claims 1, 6, and 13 have been amended to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 1-16 are respectfully submitted for consideration.

Claims 1-16 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,717,516 of Bridgelall ("Bridgelall"). Applicants respectfully traverse this rejection.

Claim 1, upon which claims 2-5 depend, is directed to a radio equipment system having a modular structure. The system includes a baseband modem, a digital interface, and a radio frequency unit including digitally operating radio frequency control means and radio frequency parts means. The baseband modem and the radio frequency unit respectively form physically separate modules which are connected with each other by the digital interface.

Claim 6, upon which claims 7-12 depend, is directed to a method of running a radio equipment. The method includes providing a radio equipment comprising physically separate modules of a baseband modem and a radio frequency unit including digitally operating radio frequency control means and radio frequency parts means. The method also includes providing a digital interface for connection of the baseband modem module and the radio frequency unit module with each other within the radio equipment.

Claim 13, upon which claims 14-16 depend, is directed to a digital interface for connecting a baseband modem module with a radio frequency unit module including digitally operating radio frequency control means and radio frequency part means within a radio equipment. The baseband modem module and the radio frequency unit module are physically separated. The interface is configured to perform the signal exchange between the modules.

Certain embodiments of the present invention can provide the advantage that the baseband modem module and the RF unit module can be developed very independently of each other. Because a split is effected from a functional point of view, developers for one module need to know very few things about a detailed implementation of the other module. Thus, parallel development can advantageously proceed with respect to the individual modules.

Applicants respectfully submit that Bridgelall fails to disclose or suggest all of the elements of any of the presently pending claims, and therefore cannot provide the critical and unobvious advantages described above. The Office Action fails to address the critical and non-obvious advantages of the present invention. Thus, Applicants understand that the Office Action has acquiesced in the existence and significance of the critical and unobvious advantages.

Bridgelall generally relates to hybrid Bluetooth/RFID based real time location tracking. As explained at column 1, lines 35-44, Bridgelall aims to provide an improvement in locating items that have active or passive back scatter RFID tags. Bridgelall, at column 5, lines 1-15, describes that a fixed device 12 may include an RF module 34 having an antenna 36. A Bluetooth radio interface 42 couples the RF module 34 to a Bluetooth baseband modem 46.

Claims 1, 6, and 13 each recite: “wherein the baseband modem and the radio frequency unit respectively form physically separate modules” (claim 1), “a radio equipment comprising physically separate modules of a baseband modem and a radio frequency unit” (claim 6), “wherein the baseband modem module and the radio frequency unit module are physically separated” (claim 13). Applicants respectfully submit that Bridgelall does not disclose or suggest at least these features of the claimed invention.

The Office Action took the position that these features are taught in Figure 2 and column 5, lines 1-15 of Bridgelall. However, neither column 5, lines 1-15, nor Figure 2 disclose or suggest, “wherein the baseband modem and the radio frequency unit respectively form physically separate modules” (as recited in claim 1) or the other features described above.

The Office Action did not provide any analysis to support its conclusion of anticipation. Accordingly, Applicants treat the rejection as construing elements 38 and 34 as the claimed radio frequency unit and some element within box 54 as being the claimed baseband modem module. Although elements 38 and 34 are shown outside of box 58, an examination of the context of Figure 2 shows that elements 38 and 34 are not disclosed as physically separate from elements 44 and 42 respectively. For example, element 72 is shown in a separate from box 60, but would have to be physically connected in order to function, because element 72 is just flash memory. Applicants respectfully submit that the connection between element 72 and box 60 is shown as similar to the connection between elements 34 and 42 and elements 38 and 44 respectively.

Accordingly, one of ordinary skill in the art would not have interpreted Figure 2 or column 5, lines 1-15 as disclosing “wherein the baseband modem and the radio frequency unit respectively form physically separate modules” (as recited in claim 1) or the other

features described above. Thus, it is respectfully requested that this rejection be withdrawn.

The Office Action, at page 2, item 1, in a single paragraph, responded to the argument above. The Office Action took the position that Bridgelall describes that device 12 includes an “RF module”, an interface, and a baseband modem, citing Figure 2. The Office Action asserted that device 12 includes physically separate modules, and stated that this assertion is supported by column 5, lines 1-15, and Figure 2. The Office Action further took the position that the arrows and lines in Figure 2 indicate the coupling of separate modules. Applicants respectfully disagree.

Regarding Figure 2 of Bridgelall, in accordance with the designations “TX” and “RX”, respectively, column 5 describes the boxes designated with reference numerals 34 and 38 to include transmitters/receivers (see column 5, line 40), wherein the box designated with reference numeral 34 is expressly designated as an RF module at column 5, lines 3-4.

It is unclear why the Office Action has taken the position that the block diagram has any relationship to physical structure, as such is not a necessary inference. Furthermore, the Office Action’s particular assertions regarding this block diagram are

incorrect. In the block diagram shown in Figure 2, the separately drawn modules are not disclosed or suggested as being “physically separate.”

Reference numerals 42 and 44, respectively, of Figure 2 of Bridgelall designate radio interfaces that – at most – designate a protocol, but nothing physically present (*i.e.* only air). Thus, it should be apparent that the “device” 12 of Figure 2 of Bridgelall is not a diagram of the physical structure of the device, nor is it designed to show the actual structural correlation of the units discussed. Instead, Figure 2 shows the logical relationship (logical connections) amongst the various shown units, as one of ordinary skill in the art would expect from a block diagram.

Thus, Applicants respectfully submit that the block diagram (and associated discussion in the specification of Bridgelall) do not show **physically separate** modules, nor would one of ordinary skill in the art view Figure 2 as being an illustration of the physical arrangement or as being a structure diagram of Bridgelall’s “fixed device 12.” Accordingly, the Office Action’s explanation is respectfully traversed, and it is respectfully requested that the rejection be withdrawn.

Furthermore, not only is Figure 2 not a structural diagram or an illustration of the physical arrangement of Bridgelall’s “fixed device 12,” but Bridgelall does provide some

information regarding the physical arrangement, and the information provided does not support the rejection.

Specifically, Bridgelall, at column 5, lines 29-56, indicates that the processors are connected to the RF modules 34, 38, such that reference numeral 58 designates a baseband processor and reference numeral 60 designates a host interface processor.

However, as defined in, for example, claim 1, the claimed “radio frequency unit,” which is in a physically separate module from the baseband modem, includes both the digitally operating radio frequency control means and the radio frequency part means. Accordingly, even if box 58 is viewed as structurally separate from the RF modules 34, 38 and the host processor 60, then what is disclosed by Bridgelall is that the baseband modem is structurally integrated with (not physically separate from) the RFID processor. As column 5, lines 29-31, of Bridgelall express it “The Bluetooth and RFID functionality is efficiently and effectively combined by using a single based [sic] band processor and single host interface processor.”

Thus, in view of Figure 2 of Bridgelall and its associated description in the specification of Bridgelall, it seems that, even if the RF module(s) 34, 38 may be considered to be physically separated by the radio interfaces 42, 44 from the baseband modem module 46, 48, then it would also seem that the digitally operating radio

frequency control means, *i.e.* the processors, are together as part of the box designated with reference numeral 58.

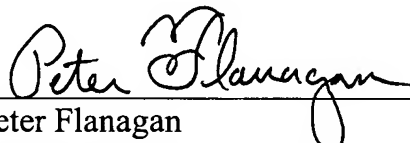
Claims 2-5, 7-12, and 14-16 depend from claims 1, 6, and 13 respectively, and recite additional features. Accordingly, it is respectfully submitted that each of claims 2-5, 7-12, and 14-16 recites subject matter that is neither disclosed nor suggested in the cited reference. Therefore it is respectfully requested that the rejection of all of claims 1-16 be withdrawn.

For the reasons explained above, it is respectfully submitted that each of claims 1-16 recites subject matter that is neither disclosed nor suggested in the cited reference. Therefore, it is respectfully requested that all of claims 1-16 be allowed, and that this application be passed to issue.

If, for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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